



IFWO

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/823,964A

DATE: 09/24/2004

TIME: 10:57:26

Input Set : A:\SEQLIST1a.TXT

Output Set: N:\CRF4\09242004\J823964A.raw

4 <110> APPLICANT: BAM, NARENDRA  
 5 BONGERS, JACOB  
 6 KIRKPATRICK, ROBERT B.  
 7 JANSON, CHERYL A.  
 8 JOHANSON, KYUNG  
 9 QIU, XIANYANG  
 10 YEH, PING  
 12 <120> TITLE OF INVENTION: CONJUGATES COMPRISING HUMAN IL-18 AND  
 13 SUBSTITUTION MUTANTS THEREOF  
 16 <130> FILE REFERENCE: PU60053  
 18 <140> CURRENT APPLICATION NUMBER: 10/823,964A  
 19 <141> CURRENT FILING DATE: 2004-04-14  
 21 <150> PRIOR APPLICATION NUMBER: 60/462,947  
 22 <151> PRIOR FILING DATE: 2003-04-15  
 24 <160> NUMBER OF SEQ ID NOS: 28  
 26 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 28 <210> SEQ ID NO: 1  
 29 <211> LENGTH: 157  
 30 <212> TYPE: PRT  
 31 <213> ORGANISM: Homo sapiens  
 33 <400> SEQUENCE: 1  
 34 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
 35 1 5 10 15  
 36 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
 37 20 25 30  
 38 Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
 39 35 40 45  
 40 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
 41 50 55 60  
 42 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile  
 43 65 70 75 80  
 44 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
 45 85 90 95  
 46 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
 47 100 105 110  
 48 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu  
 49 115 120 125  
 50 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu  
 51 130 135 140  
 52 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
 53 145 150 155  
 56 <210> SEQ ID NO: 2  
 57 <211> LENGTH: 157



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58 <212> TYPE: PRT  
59 <213> ORGANISM: Mus musculus  
61 <400> SEQUENCE: 2  
62 Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg Asn Ile Asn  
63 1 5 10 15  
64 Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe Glu Asp Met  
65 20 25 30  
66 Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg Leu Ile Ile  
67 35 40 45  
68 Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val Thr Leu Ser  
69 50 55 60  
70 Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn Lys Ile Ile  
71 65 70 75 80  
72 Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp Ile Gln Ser  
73 85 90 95  
74 Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn Lys Met Glu  
75 100 105 110  
76 Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys Gln Lys Glu  
77 115 120 125  
78 Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Asp Glu Asn Gly Asp  
79 130 135 140  
80 Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser  
81 145 150 155  
84 <210> SEQ ID NO: 3  
85 <211> LENGTH: 203  
86 <212> TYPE: PRT  
87 <213> ORGANISM: Homo sapiens  
89 <400> SEQUENCE: 3  
90 Met His His His His His Thr Arg Gly Met Ala Ala Glu Pro Val  
91 1 5 10 15  
92 Glu Asp Asn Cys Ile Asn Phe Val Ala Met Lys Phe Ile Asp Asn Thr  
93 20 25 30  
94 Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn Leu Glu Ser Asp Tyr Phe  
95 35 40 45  
96 Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn Asp Gln  
97 50 55 60  
98 Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp Met Thr  
99 65 70 75 80  
100 Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile Ser  
101 85 90 95  
102 Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile Ser Val  
103 100 105 110  
104 Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile Ile Ser  
105 115 120 125  
106 Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys Ser Asp  
107 130 135 140  
108 Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys Met Gln  
109 145 150 155 160  
110 Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu Lys Glu

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113 165 170 175  
114 Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu Gly Asp  
115 180 185 190  
116 Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
117 195 200  
120 <210> SEQ ID NO: 4  
121 <211> LENGTH: 157  
122 <212> TYPE: PRT  
123 <213> ORGANISM: Homo sapiens  
125 <220> FEATURE:  
126 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18  
127 sequence has been replaced with Serine.  
129 <400> SEQUENCE: 4  
130 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
131 1 5 10 15  
132 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
133 20 25 30  
134 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
135 35 40 45  
136 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
137 50 55 60  
138 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile  
139 65 70 75 80  
140 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
141 85 90 95  
142 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
143 100 105 110  
144 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu  
145 115 120 125  
146 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu  
147 130 135 140  
148 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
149 145 150 155  
152 <210> SEQ ID NO: 5  
153 <211> LENGTH: 157  
154 <212> TYPE: PRT  
155 <213> ORGANISM: Homo sapiens  
157 <220> FEATURE:  
158 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18  
159 sequence has been replaced with Serine, the Cysteine at  
160 position 68 has been replaced with Aspartic acid, and the  
161 Asparagine at position 78 has been replaced with Cysteine.  
163 <400> SEQUENCE: 5  
164 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
165 1 5 10 15  
166 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
167 20 25 30  
168 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
169 35 40 45

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170 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
 171 50 55 60  
 173 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Cys Lys Ile  
 174 65 70 75 80  
 175 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
 176 85 90 95  
 177 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
 178 100 105 110  
 179 Met Gln Phe Glu Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu  
 180 115 120 125  
 181 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu  
 182 130 135 140  
 183 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
 184 145 150 155  
 187 <210> SEQ ID NO: 6  
 188 <211> LENGTH: 157  
 189 <212> TYPE: PRT  
 190 <213> ORGANISM: Homo sapiens  
 192 <220> FEATURE:  
 193 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of thi human IL-18  
 194 sequence has been replaced with Serine, the Cysteine at  
 195 position 68 has been replaced with Aspartic acid, and the  
 196 Glutamic acid at position 121 has been replaced with Cysteine.  
 198 <400> SEQUENCE: 6  
 199 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
 200 1 5 10 15  
 201 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
 202 20 25 30  
 203 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
 204 35 40 45  
 205 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
 206 50 55 60  
 207 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile  
 208 65 70 75 80  
 209 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
 210 85 90 95  
 211 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
 212 100 105 110  
 213 Met Gln Phe Glu Ser Ser Ser Tyr Cys Glu Gly Tyr Phe Leu Ala Cys Glu  
 214 115 120 125  
 215 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu  
 216 130 135 140  
 217 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
 218 145 150 155  
 221 <210> SEQ ID NO: 7  
 222 <211> LENGTH: 157  
 223 <212> TYPE: PRT  
 224 <213> ORGANISM: Homo sapiens  
 226 <220> FEATURE:

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227 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18 sequence

228 has been replaced with Serine, the Cysteine at position 68 has  
229 been replaced with Aspartic acid, and the Leucine at position 144  
230 has been replaced with Cysteine.

232 <400> SEQUENCE: 7

233 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
234 1 5 10 15  
235 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
236 20 25 30  
237 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
238 35 40 45  
239 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
240 50 55 60  
241 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile  
242 65 70 75 80  
243 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
244 85 90 95  
245 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
246 100 105 110  
247 Met Gln Phe Glu Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu  
248 115 120 125  
249 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Cys  
250 130 135 140  
251 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp  
252 145 150 155

255 <210> SEQ ID NO: 8

256 <211> LENGTH: 157

258 <212> TYPE: PRT

259 <213> ORGANISM: Homo sapiens

261 <220> FEATURE:

262 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human IL-18 sequence

263 has been replaced with Serine, the Cysteine at position 68 has  
264 been replaced with Aspartic acid, and Aspartic acid at position  
266 157 has been replaced with Cysteine.

268 <400> SEQUENCE: 8

269 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn  
270 1 5 10 15  
271 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp  
272 20 25 30  
273 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile  
274 35 40 45  
275 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile  
276 50 55 60  
277 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile  
278 65 70 75 80  
279 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys  
280 85 90 95  
281 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys  
282 100 105 110

**VERIFICATION SUMMARY**

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